



Università
Ca'Foscari
Venezia

PROJECT ACRONYM AND TITLE: LIFE TRANSFER - Seagrass transplantation for transitional Ecosystem Recovery

FUNDING PROGRAMME: LIFE

CALL: LIFE19 NAT/IT/000264

HOST DEPARTMENT: DAIS

SCIENTIFIC RESPONSIBLE: Prof. Sfriso Adriano

FINANCIAL DATA:

Project total costs	Overall funding assigned to UNIVE
€ 4.214.120,00	€ 200.287,00

ABSTRACT:

The project targets the priority habitat 1150* Coastal lagoons, the habitat can be free of vegetation, on the other hand the SPA-BIO Protocol (Relini & Giaccone, 2009) identifies marine phanerogame associations as priorities for the conservation status of habitat 1150 *. The sites targeted originally had part of the area covered by seagrass. The project aims to solve the drastic regression of submerged seagrass in habitat and the slowness with which this vegetation is able to colonize area. Whenever the seed banks are absent and/or hydrodynamic circulation is poor even residual meadows cannot recolonize the lagoon. LIFE SeResto (LIFE12 NAT/IT/000331) proved the feasibility and good results of transplantation techniques. In Italy, inside the site IT4060002 the disappearance of aquatic angiosperm started in the '80, and currently seagrass meadows are reduced to small limited, and sometime enclosed, areas. A previous conservation projected (LIFE09NATIT000110) improved the water circulation and resulted in a first colonization of seagrass in southern part. Anyhow the colonization did not extended in other areas potentially suitable. Similarly in the site IT4060005 water circulation has been restored but in this case seagrass meadows are totally absent. The site IT3270017 includes eight main lagoons and related habitat, two lagoons will be targeted. The lagoons suffer of lack of water circulation at different level, in the site seagrass are still present in the enclosed wetlands in the inner part which could be used as donor sites. Spain, Mar Menor (ES6200030 overlapping with ES0000260). Changes in hydrodynamic conditions after dredging one of its inlets caused the invasion and rapid expansion of the alga *Caulerpa prolifera* (80 % of the lagoon's bottom), accumulating organic matter and silt, to the detriment of the original *Cymodocea nodosa* meadows and its fauna (including more than 30 fish species like seahorses). In shallow areas, seagrass meadows were kept undamaged thanks to water transparency (high light irradiation in the bottom), limiting the growth of *C. prolifera*. But, dredging and placement of breakwaters on beaches altered these conditions favouring the formation of sandbanks, the accumulation of detritus and the turbidity of the waters, reducing sandy habitats and seagrass meadows. It is important to restore the hydrodynamic, the quality of the substrate and the water column to recover *C. nodosa* meadows by restoration actions. In Greece the Amvrakikos site GR2110004 overlapping with GR2110001, are large site and one of the most ecologically important lagoon systems in the Mediterranean, including more than 20 coastal lagoons. It is also a Ramsar area. Progressive disappearance of rooted

angiosperms (i.e. *Zostera noltei*, *R. cirrhosa*) has been observed in the lagoons. The considerable loss of benthic vegetation in Logarou led to a decline of biodiversity and productivity of the ecosystem (Reizopoulou & Nicolaidou, 2004; Zoulias et al., 2014), therefore the phanerogame will invert the trend.

Planned Start date	Planned End date
1st December 2020	30th November 2025

PARTNERSHIP:

1. Università degli Studi di Ferrara	Italy	Coordinator
2. Amvrakikos gulf – Lefkada Management Agency	Greece	Partner
3. Comunidad Autónoma de la Región de Murcia - Consejería de Agua, Agricultura, Ganadería, Pesca y Medio Ambiente – Dirección General de Mar Menor	Spain	Partner
4. Asociación Empresarial Centro Tecnológico de la Energía y del Medio Ambiente de la Región de Murcia	Spain	Partner
5. DAIS – Università Ca’ Foscari Venezia	Italy	Partner
6. Ente di Gestione per i Parchi e la Biodiversità-Delta del Po	Italy	Partner
7. Hellenic Centre for Marine Research	Greece	Partner
8. Istituto Delta Ecologia Applicata srl	Italy	Partner
9. Universidad de Murcia	Spain	Partner
10. Ente Parco Delta del Po Veneto	Italy	Partner